

CLAIMS

1. A method for identifying at least one antigen or antigen binder comprising:
  - i) immunizing a camelid;
  - ii) isolating at least one V<sub>H</sub>H gene from the immunized camelid;
  - iii) fusing the at least one V<sub>H</sub>H gene to a reporter gene, thereby creating at least one fusion gene;
  - iv) transforming the at least one fusion gene into a species that permits secretion of at least one fusion protein from the at least one fusion gene;
  - v) incubating the at least one fusion protein with at least one target and
  - vi) identifying the at least one antigen or antigen binder.
2. The method according to Claim 1, wherein the camelid comprises either a camel or a llama.
3. The method according to Claim 1, wherein immunizing occurs with whole cells, cell membrane fractions or peptides specific to an antigen of interest.
4. The method according to Claim 3, wherein the antigen of interest comprises CEA, Muc-1, Tag72,  $\alpha$ V $\beta$ 3 or  $\alpha$ V $\beta$ 5.
5. The method according to Claim 1, wherein immunizing occurs with tumour extracts.
6. The method according to Claim 1, wherein the at least one V<sub>H</sub>H gene is isolated with RT-PCR.
7. The method according to Claim 1, wherein the species is E.Coli.
8. The method according to Claim 1, wherein the at least one antigen or antigen binder is identified by measuring activity of the fusion protein.

9. The method according to Claim 8, wherein the reporter gene is a BLA.
10. The method according to Claim 9, wherein activity is determined with a nitrocefin assay.
11. The method according to Claim 10, wherein binding is measured with FACS, ELISA or IHC.
12. The method according to Claim 11, wherein binding is measured with FACS.
13. An antigen or antigen binder, the antigen or antigen binder isolated by a method comprising:
  - i) immunizing a camelid;
  - ii) isolating at least one V<sub>H</sub>H gene from the immunized camelid;
  - iii) fusing the at least one V<sub>H</sub>H gene to a reporter gene, thereby creating at least one fusion gene;
  - iv) transforming the at least one fusion gene into a species that permits secretion of at least one fusion protein from the at least one fusion gene;
  - v) incubating the at least one fusion protein with at least one target and
  - vi) identifying the at least one isolated antigen or antigen binder.
14. The antigen or antigen binder according to Claim 13, wherein the antigen is CEA, Muc-1, Tag72,  $\alpha$ V $\beta$ 3 or  $\alpha$ V $\beta$ 5.
15. The method according to Claim 13, wherein immunizing occurs with tumour extracts.
16. The method according to Claim 13, wherein the at least one V<sub>H</sub>H gene is isolated with RT-PCR.

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17. The method according to Claim 13, wherein the at least one antigen or antigen binder is identified by measuring activity of the fusion protein.
18. The method according to Claim 17, wherein the reporter gene is a BLA.
19. The method according to Claim 18, wherein activity is determined with a nitrocefin assay.
20. The method according to Claim 13, wherein binding is measured with FACS, ELISA or IHC.
21. The method according to Claim 20, wherein binding is measured with FACS.
22. A. method of quantifying antigen amount on a target, comprising:
  - i) immunizing a camelid;
  - ii) isolating at least one V<sub>H</sub>H gene from the immunized camelid;
  - iii) fusing the at least one V<sub>H</sub>H gene to a reporter gene, thereby creating at least one fusion gene;
  - iv) transforming the at least one fusion gene into a species that permits secretion of at least one fusion protein from the at least one fusion gene;
  - v) incubating the at least one fusion protein with at least one target;
  - vi) measuring binding between the at least one target and the at least one fusion protein and
  - vii) quantifying antigen amount.
23. The method according to Claim 22, wherein immunizing occurs with whole cells, cell membrane fractions and peptides specific to an antigen of interest.
24. The method according to Claim 22, wherein the at least one antigen or antigen binder is identified by measuring activity of the fusion protein.

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25. The method according to Claim 22, wherein the reporter gene is a BLA.
26. The method according to Claim 25, wherein activity is determined with a nitrocefin assay.
27. The method according to Claim 22, wherein binding is measured with FACS.
28. A method of determining affinity, comprising:
- i) immunizing a camelid;
  - ii) isolating at least one V<sub>H</sub>H gene from the immunized camelid;
  - iii) fusing the at least one V<sub>H</sub>H gene to a reporter gene, thereby creating at least one fusion gene;
  - iv) transforming the at least one fusion gene into a species that permits secretion of at least one fusion protein from the at least one fusion gene;
  - v) incubating the at least one fusion protein with at least one target; measuring affinity between the at least one target and the at least one fusion protein.